REMARKS

This amendment is responsive to the Office Action mailed Feb. 23, 2007. Claims 11-16 have been cancelled. Claims 1-10 and 17-25 remain pending in the application.

OBJECTIONS TO SPECIFICATION

Minor amendments have been made in the specification to correct instances where an incorrect reference number had been used. No new matter has been entered in the application at this time. Entry of these very minor amendments to the specification is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-3, 5-7, 9-13, 15-17, 22 and 25 were rejected as being obvious over Fleming, III et al. (hereinafter "Fleming et al."; US 6,212,360) in view of Bethscheider et al. (US 6,275,678). This rejection is respectfully traversed.

Initially, the independent claims 1, 7 and 17 have been amended to more positively recite a beacon signal receiver or the operation of generating a beacon signal. Wording has also been added in claim 1 to highlight the monitoring of "atmospheric induced" losses affecting the signal from the second communications station. In claim 17, language has been added to more positively highlight the downlink loss that is associated with the beacon signal, and that this downlink loss is representative of the downlink loss associated with the signal from the second communications station.

As the Examiner has correctly noted, Fleming et al. is not directed to a system that uses a noise signal to help determine losses that are induced by atmospheric conditions. This system also appears to deal with determining atmospheric induced losses on the received signal in a fundamentally different way from the system and

method of the present application. More specifically, it is stated in Fleming et al. (col. 5, 50-63) that the amount of the uplink attenuation is calculated as a function of the actual beacon signal frequency, the actual outbound uplink frequency, and the beacon fade. Accordingly, there would be seemingly be no need or motivation for one of ordinary skill to attempt to modify the system of Fleming et al. with the use of a noise signal as with the system and method of the present application. The system in Fleming et al. would not appear to be enhanced by this modification. Nor is there any apparent technical deficiency in the apparatus disclosed in Fleming et al. to suggest that such a modification would be desirable or effective for some reason.

Bethscheider et al. involves a system for determining an operating point of a non-linear amplifier of a transponder used on a satellite. However, Bethscheider et al. involves transmitting both a payload signal and a separate carrier signal f(t), with the carrier signal being modulated with a noise component. The modulated carrier signal needs to be transmitted at a lower power than the payload signal. The "recovered" carrier signal f'(t) is analyzed in reference to the clean carrier signal f(t). From this analysis a gain is determined, which gain is used to determine the input power of the payload signal that is being applied to the transponder (col. 3, lines 44 – col. 4, lines 16). Thus, Bethscheider et al. relies on using a separate modulated carrier signal (modulated with a noise component), that is compared at the satellite transponder to make the gain determination. The modulated carrier signal is not a beacon signal. Furthermore, two separate signals are required to be transmitted (i.e., uplinked) to the satellite: 1) the payload signal and 2) the modulated carrier signal f(t).

The present system and method functions fundamentally different than the Fleming et al. and Bethscheider et al. references, even when combining the teachings of both (which the undersigned maintains are not properly combinable for establishing an obviousness rejection). The present system and method applies the predetermined noise signal to the signal received from the remote transponder (i.e., what could be viewed as the "payload" signal discussed in Bethscheider et al.) rather than to a separate carrier signal as discussed in Bethscheider et al. As the Examiner will appreciate, this leads to additional complexity in the overall system, as a separate demodulator subsystem then becomes necessary to demodulate the modulated carrier signal. There is no suggestion in the combination of Fleming et al. and Bethscheider et al. to apply the noise component directly to the received signal (i.e., the "payload" or primary information signal from the satellite) to form a "composite signal", with the composite signal being used for analytical purposes, in connection with a separate beacon signal, to determine the influence of atmospheric induced losses affecting the received signal. Moreover, neither the Bethscheider et al or Fleming et al references discloses or suggests using a composite signal together with a beacon signal for the purposes of determining atmospheric induced losses. The use of a beacon signal would most likely require less component complexity than what would be required to generate a modulated carrier signal.

For at least these reasons, reconsideration and withdrawal of the obviousness rejection based on the Fleming et al./Bethscheider et al. combination is respectfully requested.

Claim 17 was rejected as being obvious over Wright et al. (US 6,272,340) in view of Bethscheider et al. However, it is believed that the Examiner intended to set forth a rejection involving the combined teachings of Fleming et al., Wright et al. and Bethscheider et al. in view of the Examiner's explanation of this rejection in which the Fleming et al. reference was cited for its teachings. In view of the shortcomings explained herein regarding the teachings of Fleming et al. and Bethscheider et al., and the minor amendments to independent claim 17, it is believed that this rejection has been rendered moot. Reconsideration is respectfully requested.

Claims 4, 8, 14, 18, 19 and 20 were rejected as being obvious over Fleming et al. in view of Nakamura (U.S. 7,130,577). In view of the amendments made to the independent claims 1, 7 and 17 (and the cancellation of claim 14), it is believed that this rejection has been rendered moot. The undersigned also wishes to point out that Nakamura has nothing to do with attempting to determine atmospheric induced affects on a signal being received at a first communications station from a second communications station. Nakamura does mention impressing noise on two input signals (col. 1, lines 27-33) as the Examiner has noted. However, this is done to provide a low noise converter that is less susceptible to spurious harmonic operation. There is no suggestion in Nakamura as to how its teachings might somehow be applied to a signal being received from a communications station, for example a satellite based transponder, for the purpose of determining atmospheric induced losses affecting the signal. The undersigned respectfully submits that one of ordinary skill in this art would glean nothing from Nakamura and Fleming et al. as to how to implement a noise signal on a received signal (such as from a satellite transponder) for the purpose of

determining atmospheric affects on the received signal. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 21 and 24 were rejected as being obvious in view of Fleming et al. and Nakamura, as applied to claims 20 and 23, and further in view of Marko (U.S. 7,136, 640). In view of the comments concerning the Fleming et al. and Nakamura references, it is believed that this rejection has been rendered moot.

Claim 23 was rejected as being obvious over Fleming et al. in view of Marko. Again, for the reasons given in connection with the analysis of Fleming et al, and the amendments to independent claim 17 (from which claim 23 depends), it is believed that this rejection has been rendered moot. It should also be noted that Marko has nothing to do with providing a composite signal that includes a noise component. Marko is directed to a system and method for selectively operating tundra satellite orbits in a satellite broadcast system, and is completely unconcerned with addressing the problem of atmospheric losses affecting a received electromagnetic signal from a remote communications station.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: 
Mark D. Elchuk, Reg. No. 33,686

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600
MDE/jo